

REMARKS

The Office Action dated September 1, 2008 has been received and carefully studied.

A Request for Continued Examination is submitted herewith.

The Examiner newly rejects claims 1-3, 7-8, 12 and 14-15 under 35 U.S.C. §103(a) as being unpatentable over Steinberg, U.S. Patent No. 3,450,613, in view of Chern, U.S. Patent No. 4,297,401, as evidenced by Gander, U.S. Patent No. 3,853,962 and Heucher, U.S. Patent No. 5,902,849. The Examiner states that Steinberg teaches a sealant comprising as an essential ingredient (a) a radiation curable resin represented by Applicant's general formula (1) where R1 is hydrogen, R2 is hydrogen, R3 is methyl, which is inherently the condensation product of the two reactants resorcinol diglycidyl ether and methacrylic acid, where n is within the claimed range of 0 to 20, as evidenced by Gander. The Examiner states that Steinberg also teaches that the sealant further comprises as an essential ingredient (b) a radical photopolymerization initiator, but fails to teach that the sealant comprises (c) an inorganic filler having an average particle diameter of 3 μm or less. The Examiner cites Chern for its disclosure of a sealant that comprises an inorganic filler to alter the viscosity of the sealant for the purpose of providing ease of screen printing, such as Cab-O-Sil, which is a silica that has an average particle diameter within the claimed range. The Examiner concludes that it would have been obvious to have provided the sealant of Steinberg with (c) an inorganic filler having an

average particle diameter of 3 μm or less, to alter the viscosity of the sealant in order to obtain the desired ease of screen printing.

By the accompanying amendment, claim 1 has been amended by deleting formula (1) and inserting formula (2); and by reciting that the radiation curable resin of formula (2) is obtained by subjecting resorcin diglycidyl ether to acrylic acid in an amount equivalent to the number of epoxy groups in the molecule. Claim 2 has been cancelled, and dependent claims have been amended accordingly. Support for the amendment to claim 1 can be found in the paragraph bridging pages 9 and 10, and in Synthesis Example 1 on page 18 of the specification.

Steinberg discloses a photosensitive composition used for a cement, and reacting an excess epoxy body with an acid so as to retain epoxy groups in the epoxy resin used (see claim 1 and column 2, lines 63-70). On the other hand, Example 10 of Steinberg demonstrates that resorcinol diglycidyl ether 0.3 epoxide equivalent was reacted with 0.15 equivalents of methacrylic acid, which contradicts the above claim and description in the specification, and thus appears to be misdescriptive. In any event, the epoxy resin disclosed in Steinberg is not the claimed resin obtained by subjecting resorcin diglycidyl ether to acrylic acid in an amount equivalent to the number of epoxy groups in the molecule.

Comparing amended claim 1 with the description of Steinberg, there are differences in that the claimed resin represented by the general formula (2) is obtained by subjecting resorcin

diglycidyl ether to acrylic acid in an amount equivalent to the number of epoxy groups in the molecule, while Steinberg does not disclose this, and that the claimed composition comprises an organic filler having an average particle diameter of 3 μm or less, while Steinberg does not disclose the use of inorganic fillers.

Further, although Gander discloses a product obtained by reacting resorcin diglycidyl ether with methacrylic acid, the product is disclosed as an "intermediate" for preparing 1,3-bis[2,3-di(methacryloxy)-propoxy]-benzene used for dental cement compositions. As set forth in MPEP §2144.09, if the prior art merely discloses compounds as intermediates in the production of a final product, one of ordinary skill in the art would not have been motivated to stop the reference synthesis and investigate the intermediate compounds with an expectation of arriving at claimed compounds which have different uses. *In re Lulu*, 747 F.2d 703, 223 USPQ 1257 (Fed. Cir. 1984). Accordingly, Steinberg disclosing the resin as one ingredient of a cement composition cannot be combined with Gander disclosing the resin as the intermediate.

Regarding the use of an inorganic filler having an average particle diameter of 3 μm or less, the Examiner points out that this feature is obvious from Chern and Heucher. However, neither Chern nor Heucher, alone or in combination, supplies the above deficiencies of Steinberg and Gander.

The present invention can provide a sealant for liquid crystals excellent in adhesion strength and low liquid crystal

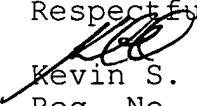
contamination by adopting the above constitutions as the composition, which makes it possible to produce a liquid crystal display cell having reliability in a liquid crystal dropping method (refer to "Effects of the Invention" on page 8 of the specification). The surprising effects of the present invention cannot be expected from Steinberg, or a combination of Steinberg and Chen, Gander and Heucher.

The Examiner rejects claims 4 and 13 under 35 U.S.C. §103(a) as being unpatentable over Steinberg in view of Chern, as evidenced by Gander, and Heucher, and further in view of Kitamura, U.S. Publ. No. 2002/0176046.

Claims 4 and 13 are believed to be allowable by virtue of their dependence, for the reasons discussed above. Kitamura does not supply the deficiencies of the remaining references.

Reconsideration and allowance are respectfully requested in view of the foregoing.

Respectfully submitted,


Kevin S. Lemack
Reg. No. 32,579
176 E. Main Street - Suite 5
Westboro, Massachusetts 01581
TEL: (508) 898-1818